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from her broken husband to his masterful coadjutor. The Professor is wont to refer to this lady as the Link, though her connective office is not clear; the confessions of the Rector to the Independent Gentleman, and of the Curate to the Professor, make the story plain enough without her.

More interesting than the novel itself is the psychology of its author. Why did he write it? To point the moral that, if we could but see ourselves with a perfect vision, we should be horrified at the revelation? But that is trite morality; and most readers, it may be assumed, will compare themselves favorably with the Reverend Marcus Harding. To plead the cause of psychical research, on the ground that there are more things in heaven and earth than science dreams of? But an imaginative tale will not convince any who are not convinced already. As a *tour de force*, to prove that the modern novelist can make plausible use of the 'supernatural'? Perhaps: the title seems to point to some such intention. But then—plausibility is a relative matter, and the book should not be sent for review to a psychologist.

WM. ERSKINE

*The Evolution of Mind.* By JOSEPH McCABE. London, A. & C. Black. New York, The Macmillan Co., 1910. pp. xvii., 287.

In this fluently—at times brilliantly—written essay, Mr. McCabe seeks to solve the cosmic problem of the birth and development of mind. It is usual, he tells us, to postulate two evolutionary series: the material, where "all varieties of energy and matter arise out of the abysmal womb of ether," and the mental, which "set in when the earth reached a certain stage of its development." Is this dualism tenable? When, and in what form, did consciousness first appear? Can mind be brought into the cosmic unity by tracing its gradual emergence from the etheric matrix? These are the questions which the present work essays to answer.

All living matter, whether plant or animal, shows, when it has freedom of movement, two properties which we may, if we will, term 'mental' or 'psychical': namely, sensitiveness or irritability or responsiveness to stimulation, and spontaneous or self-initiated movement. But sensitiveness is also a widespread attribute of inorganic matter; and spontaneous movement always turns out, on careful scrutiny, to be a response to environmental stimuli. Here, therefore, is no evidence of consciousness; if we speak of 'mind' at all, we are stripping the word of the distinctive significance that it has in our own experience. What we are looking for is proof of consciousness.

But what, then, the reader may ask, *is* consciousness? "I make no attempt to define consciousness," replies our author, "partly because it defines itself more clearly than words can do, partly because all attempts to define it have proved abortive." Nevertheless, he knows very well what he is in search of. "The question to be answered is not, can we find any actions in a lower animal which are consistent with a theory of consciousness, but can we find any which are inconsistent with a purely neural action. The question of consciousness does not arise till then." "What I am chiefly seeking to determine is whether a new reality, or agency, besides ether, intervenes at some point in the earth's story." "The plain purpose I have in view is to see whether, and when, a new reality, other than ether and its products or aspects, enters into the tissue of our planetary life." And so he works up the scale of organic evolution, and reaches one negative conclusion after another. "There is no proof that consciousness had appeared before the Devonian period, or has since developed in any of the modern representatives of Pre-Devonian animals." "We have no clear or cogent indication of conscious states in the whole invertebrate world, or in any type of animal that lived before the Permian revolution in the earth's history." "We have not found a single pre-Tertiary animal whose activities cannot be explained without an assump-

tion of consciousness." The whole history so far is a history of the progress of mechanism.

Of course it is! But then, so is the subsequent history, that of man included. Mr. McCabe is the victim of a false antithesis. The opposite of conscious is unconscious,—not mechanical or neural; the opposite of reflex or automatic is complex or delayed,—not conscious. And this criticism holds, on any definition of 'consciousness.' "Inferences from external manifestations are precarious," says our author. One may reply that, on his own principles, they are impossible; for external manifestations can never give evidence of a new reality, different from ether; they must, just because they are external, belong wholly and solely to the material sphere. The most highly deliberative action of the civilized adult, no less than the simplest tropism of the unicellular organism, must be explicable, as an 'etheric' derivative, in physico-chemical terms. The logic of this issue is so elementary, and the point has been so often made, that one wonders to find Mr. McCabe the victim of the pitfall.

But now, for Mr. McCabe as for all of us, human consciousness is a brute fact, and all the ether in the universe cannot away with it. What is to be done? "I submit that the only way to come to any conclusion is to compare the organ of consciousness in ourselves with the presumed organ" in other creatures. The criterion, therefore, is to be external, after all! The fishes have an archipallium; possibly then, a dull glow of consciousness may accompany their activities; but its presence is disputable, and its nature (if it is present) must be insubstantial. The part of the brain which in higher animals is associated with consciousness is in the amphibia and reptiles extremely small, and cannot with any confidence be regarded as an index of consciousness. In the birds, the cerebral hemispheres have at last gained conspicuously on the other parts of the brain; here, accordingly, we may assume some consciousness, though its degree must remain unknown. Wherewith we pass to the mammals, and are on firmer ground.

And consciousness itself? "It seems to me quite hopeless to speculate on the origin of consciousness, so long as its organ is so wrapped in obscurity. And precisely for the same reason I decline to see in it the emergence or accession of a new reality, other than ether, or ether-compacted nerve. Until we know the cortex sufficiently well to say that its structure throws no light on the nature of consciousness, the question must be left open. At present, our knowledge of the cortex, the most transcendently important thing that science approaches, is appallingly meagre." "It is the most reprehensible dogmatism to say that consciousness may not have arisen in, and be a function of it." "Any further discussion of the point would take us into metaphysical considerations." Apparently it would,—if we are not in the realm of such considerations already.

Here the general argument ends. It is clear that Mr. McCabe is at least under obligation to distinguish between the two current uses of the term 'consciousness;' to say whether, for him, it means 'awareness' or whether it is identical with 'mind' or 'mentality' at large. It is clear, too, that he has not fully understood his authorities: he is not at home with Wundt's theory of the instinct, or with Thorndike's doctrine of free ideas; and, indeed, his conception of modern psychology seems to be that of an objective body of arguments rather than that of a group of empirical and subjectively verifiable observations. These, however, are minor points: the great fault of the essay is the logical fallacy which we have noted above.

The two concluding chapters, on the Dawn of Humanity and the Advance of Mind in Civilization, presuppose the appearance of consciousness, and need not be discussed. They, like all the book, are written with a nerve and swing that fascinate the reader. Mr. McCabe has an unusually wide range of knowledge, and a delightful style; it is a pity that his great powers of popularization are not exercised by a more logical mind.

P. E. WINTER